

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-256007

(43)Date of publication of application : 19.09.2000

(51)Int.Cl.

C01B 33/12
H01G 9/025
H01M 10/40
// H01B 1/06
H01M 8/02

(21)Application number : 11-064160

(71)Applicant : JSR CORP

(22)Date of filing : 11.03.1999

(72)Inventor : MINAMI TSUTOMU
TATSUMISUNA MASAHIRO
TADANAGA SEIJI
MATSUDA ATSUNORI

(54) PRODUCTION OF PROTON CONDUCTIVE MATERIAL

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a proton conductor having excellent proton conductivity and showing no decrease in the proton conductivity even in a dry environment by bringing an acid aq. soln. having specified mol or more concn. of an acid having a group selected from phosphate group, perchlorate group and sulfonate group into contact with a silica nanotube.

SOLUTION: A silica nanotube is impregnated with an acid aq. soln. such as sulfuric acid for 1 to 5 hours under the conditions of ≥ 0.5 mol concn. of the acid aq. soln., 20 ml of the contact amt. per 1 g of silica and $\leq 80^{\circ}\text{C}$ contact temp. to obtain a proton conductor suitable for a fuel cell, capacitor or the like. The silica nanotube is obtd., for example, by adding 1 to 3 mol of water with its pH controlled to 1 to 4 to 1 mol of tetraalkoxysilane to partially decompose the tetraalkoxysilane, adding a surfactant such as a cationic alkylammonium salt by 0.01 to 0.3 mol to 1 mol of the tetraalkoxysilane to the partially decomposed produce, stirring at 10 to 100 rpm, drying a reaction system and calcining at 600 to 700°C for 4 to 10 hours.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office